

ECON G105: CONSUMER AND FINANCIAL MATH

Item	Value
Curriculum Committee Approval Date	12/03/2019
Top Code	170200 - Mathematics Skills
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S), • Pass/No Pass (B)
Local General Education (GE)	• Area 1B Critical Thinking (GA3)
California State University General Education Breadth (CSU GE-Breadth)	• CSU B4 Math/Quant.Reasoning (B4)

Course Description

This course provides an exploration of the use of mathematics related to consumer and financial applications. The course will utilize basic mathematical concepts applied to the real world and society for consumers, business, money, and banking. PREREQUISITE: Course taught at the level of elementary algebra or appropriate math placement. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Course Outcomes
2. Interpret data in a graph.
3. Apply time value of money equations to savings.
4. Calculate interest payments on loans.
5. Solve various tax payments to determine the type of tax.

Course Objectives

- 1. Apply complex equations to consumer, business, and financial problems.
- 2. Calculate taxes and determine the nature of the tax as proportional, regressive, or progressive.
- 3. Use time value of money to calculate present and future value of financial assets.
- 4. Calculate interest payments on loans and credit using simple, compound, and balance methods.
- 5. Interpret growth rates and data from charts and graphs.
- 6. Recognize the difference between stocks, bonds, bank accounts, and mutual funds.

Lecture Content

Problem Solving Percents Absolute and relative change Fractions and proportions Decimals Mean, median, and mode Taxes Calculating taxes Proportional Regressive Progressive Effective tax rate Tax tables Income tax Property tax Sales and excise taxes Capital gains Social Security and Medicare Income Commission Overtime pay Piece work Finance Simple interest Compound interest Lump sum versus payments Savings Loans and credit Average daily balance Unpaid balance Money values over time Principle, rate, time Present value Future value Effects of inflation Amortization Annuity Depreciation Financial System Financial markets Bonds Bond pricing Current yield Stocks Dividends Total return Stock splits Transaction Fees Stock data charts Effects of leverage Managing Risk Insurance Diversification Risk and return Banks Types of accounts Bank statement reconciliation Mutual funds Consumer Applications Weighted averages Credit scores Probabilities Events and outcomes Expected value Calculating sale prices and tips Automobiles and Transportation Miles traveled Gas mileage and range Travel time and average speed Repair costs Auto loans Graphs and charts Growth Linear Exponential Types of Charts Pie Line Bar Tree diagrams

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)

Instructional Techniques

Lecture Problem solving

Reading Assignments

Textbook Online readings and supplemental materials to understand financial, consumer, and business math

Writing Assignments

Written solutions to homework, quiz, and test problems

Out-of-class Assignments

Problem solving exercises related to finance and consumer financial decisions Written solutions to homework problems

Demonstration of Critical Thinking

Solve time value of money problems and apply to financial assets and loans by determining the correct process to use. Calculate various interest rate methods on savings and loans.

Required Writing, Problem Solving, Skills Demonstration

Apply appropriate equations to solving consumer based mathematics problems. Understand and evaluate data represented in tables and graphs. Calculate taxes using tax tables and determine if the tax is regressive, proportional, or progressive.

Eligible Disciplines

Business: Master's degree in business, business management, business administration, accountancy, finance, marketing, or business education OR bachelor's degree in any of the above AND master's degree in economics, personnel management, public administration, or Juris Doctorate (J.D.) or Legum Baccalaureus (LL.B.) degree OR bachelor's degree in economics with a business emphasis AND master's degree in personnel management, public administration, or J.D. or LL.B. degree OR the equivalent. Master's degree required. Economics: Master's degree in economics OR bachelor's degree in economics AND master's degree

in business, business administration, business management, business education, finance, or political science OR the equivalent. Master's degree required.

Textbooks Resources

1. Required Lippman, David. Math in Society, 2.5 ed. Creative Commons (OER), 2017 2. Required Gerver, R. Sgroi, R.. Financial Algebra, ed. Cengage, 2018 3. Required Harmeyer, K.. Consumer Mathematics, ed. Pearson Prentice Hall, 2007 Rationale: . 4. Required Barron's. E-Z Business Math, 5th ed. Barrons Educational Series, 2009 Rationale: .

Other Resources

1. Foundations of Real World Math: Saylor Academy (OER)